



Spring 2001 Released Test

(Supplemental Information)

End of Course

Algebra II

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Introducing the Virginia Standards of Learning

Algebra II

One of the complete test forms from the Spring 2001 Standards of Learning administration is presented in the following pages. The intent of this released test is to provide parents and teachers additional information to accompany the Student Performance Report and/or the Parent Report.

The information accompanying each test question is broken into several components:

Reporting Category: Matches the score report and allows for identification of strengths and weaknesses indicated by student scores.

Standard of Learning: Presents the SOL used in developing the assessment question.

Instruction: Provides information for teachers to use as the SOL is incorporated into instruction.

The answer to each question can be found at the back of the booklet.

Algebra II

End of Course

Reporting Category: Expressions and Operations

A. Standard of Learning: A.II.1 The student will identify field properties, axioms of equality and inequality, and properties of order that are valid for the set of real numbers and its subsets, complex numbers, and matrices.

Builds On: Students begin working with properties in the grade 7 SOL and continue through the Algebra I SOL.

A

1 Which of the following equations is an example of the distributive property?

A $(4 + x^2) + z = 4 + (x^2 + z)$

B $7y^2 \times 1 = 7y^2$

C $6p^3 + 9 = 3(2p^3 + 3)$

D $9y^5 + 0 = 9y^5$

2 Which property is illustrated by this equation?

$$\frac{3}{2}x + 0 = \frac{3}{2}x$$

F Commutative Property for Addition

G Distributive Property

H Additive Inverse

J Additive Identity

Instruction: Provide students an opportunity to identify illustrations of the distributive property, and use the additive identity property.

Algebra II

End of Course

A. Standard of Learning: A.II.2 The student will add, subtract, multiply, divide, and simplify rational expressions, including complex fractions.

Builds On: Students begin working with operations with fractions in the grade 3 SOL and continue through the Algebra I SOL.

A

3 $\frac{6a + 12}{a} \cdot \frac{a^3}{a + 2} = ?$

A $6a^2$

B $\frac{6}{a^2}$

C $\frac{6(a + 2)}{a}$

D $\frac{6a^2 + 24a + 24}{a^4}$

4 Which is equivalent to $\frac{3x}{7} + \frac{5y}{14x}$?

F $\frac{8y}{21}$

G $\frac{x^2}{14}$

H $\frac{6x^2 + 5y}{14x}$

J $\frac{3x^2 + 5y}{14x}$

5 Which is equivalent to $\frac{x^2 - 4}{x^2 - 4x + 4}$?

A $\frac{1}{x + 1}$

B $\frac{x + 2}{x - 2}$

C $\frac{1}{4x}$

D $\frac{1}{x + 4}$

Instruction: Provide students an opportunity to simplify rational expressions.

Algebra II

End of Course

A. Standard of Learning: A.II.3 The student will

a) add, subtract, multiply, divide, and simplify radical expressions containing positive rational numbers and variables and expressions containing rational exponents.

Builds On: Students begin to work with radicals (square roots) in the grade 6 SOL and continue through the Geometry SOL.

- A**
- 6** Which is equivalent to $16^{\frac{3}{2}}$?
- F 4
G 8
H 12
J 32

Instruction: Provide students an opportunity to simplify expressions containing rational exponents.

B. Standard of Learning: A.II.3. The student will

b) write radical expressions as expressions containing rational exponents, and vice versa.

Builds On: Students begin to work with radicals (square roots) in the grade 6 SOL and continue through the Geometry SOL.

- B**
- 7** Which is equivalent to $a^{\frac{1}{2}}b^{\frac{3}{4}}$?
- A ab^3
B $\sqrt{ab^3}$
C $\sqrt[3]{a^2b^4}$
D $\sqrt[4]{a^2b^3}$

Instruction: Provide students an opportunity to express a product containing rational exponents as a radical expression.

Algebra II

End of Course

A. Standard of Learning: A.II.5 The student will identify and factor completely polynomials representing the difference of squares, perfect square trinomials, the sum and difference of cubes, and general trinomials.

Builds On: Students begin work with number factors in the grade 3 SOL and with polynomial factors in the Algebra I SOL.

A

8 Which of the following expressions cannot be factored into a product of lower degree terms over the set of real numbers?

F $8a^3 + b^3$

G $4x^2 - 12xy + 9y^2$

H $x^2 + 5x + 25$

J $16a^2 - 9b^2$

Instruction: Provide students an opportunity to factor a trinomial with two variables and a leading coefficient greater than 1.

B. Standard of Learning: A.II.17 The student will, given a set of data points, write an equation for a line of best fit, using the median fit method, and use the equation to make predictions.

Builds On: Students begin work with performing operations on complex numbers and with polynomial factors in the Algebra II SOL.

B

9 What is the sum of $(2 - 5i)$ and $(3 + i)$?

A $-4 - 4i$

B 1

C 5

D $5 - 4i$

10 Which is equivalent to $\frac{5 + i}{1 + 3i}$?

F $\frac{4 - 8i}{5}$

G $\frac{4 - 7i}{5}$

H $\frac{1 - 7i}{5}$

J $\frac{-1 - 7i}{4}$

Instruction: Provide students an opportunity to simplify a ratio of complex numbers and add complex numbers.

Algebra II

End of Course

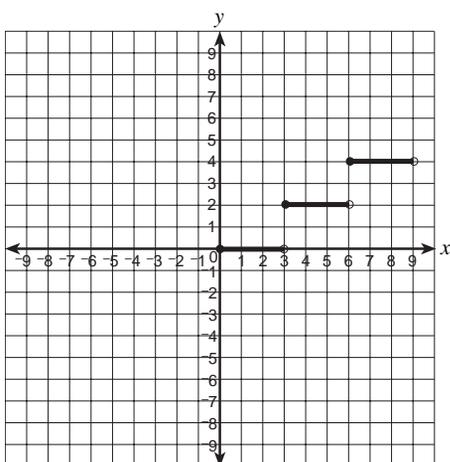
Reporting Category: Relations and Functions

A. Standard of Learning: A.II.8 The student will recognize multiple representations of functions (linear, quadratic, absolute value, step, and exponential functions) and convert between a graph, a table, and symbolic form. A transformational approach to graphing will be employed through the use of graphing calculators.

Builds On: Students begin to study relations and functions in the grade 7 SOL and progress through to a study of linear and quadratic functions in the Algebra I SOL.

A

11



What is the equation of the function shown?

A $f(x) = \begin{cases} 0 & \text{for } 0 < x < 3 \\ 2 & \text{for } 3 < x < 6 \\ 4 & \text{for } 6 < x < 9 \end{cases}$

B $f(x) = \begin{cases} 0 & \text{for } 0 \leq x < 3 \\ 2 & \text{for } 3 \leq x < 6 \\ 4 & \text{for } 6 \leq x < 9 \end{cases}$

C $f(x) = \begin{cases} 0 & \text{for } 0 < x \leq 3 \\ 2 & \text{for } 3 < x \leq 6 \\ 4 & \text{for } 6 < x \leq 9 \end{cases}$

D $f(x) = \begin{cases} 0 & \text{for } 0 \leq x \leq 3 \\ 2 & \text{for } 3 \leq x \leq 6 \\ 4 & \text{for } 6 \leq x \leq 9 \end{cases}$

12

x	$f(x)$
-3	2
0	5
3	-10

The table shows some elements of a function. Which equation is *most* likely a rule for the function?

F $f(x) = x + 5$

G $f(x) = -5x + 5$

H $f(x) = 5 - 2x - x^2$

J $f(x) = x^2 - 5x + 5$

Instruction: Provide students an opportunity to analyze a step function and select its correct algebraic representation; and to analyze a table of values and determine the rule of the function.

Algebra II

End of Course

A. Standard of Learning: A.II.9 The student will find the domain, range, zeros and inverse of a function, the value of a function for a given element in its domain, and the composition of multiple functions. Functions will include those that have domains and ranges that are limited and/or discontinuous. The graphing calculator will be used as a tool to assist in investigation of functions, including exponential and logarithmic.

Builds On: Students begin to work with the terms domain and range in grade 7 SOL and progress to finding the zeros of a function in the Algebra I SOL.

A

13 If $f(n) = 2^n - n$, then $f(3) =$

- A 3
- B 5
- C 9
- D 11

15 Which is a zero of the function $f(x) = x^2 + 6x + 8$?

- A -8
- B -4
- C 2
- D 4

14 If the domain of $y + 2 = x^2$ is $\{-2, -1, 1, 3\}$, what is the range?

- F $\{-1, 2, 7\}$
- G $\{-6, -3, 3, 11\}$
- H $\{-7, -2, -1, 1\}$
- J $\{-11, -3, 3, 6\}$

Instruction: Provide students an opportunity to find the zero of a linear function; to determine the range of a function when given the domain; and to find a composition of two functions.

Algebra II

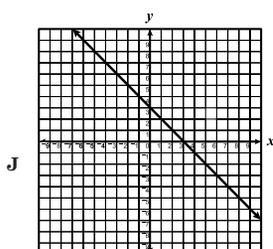
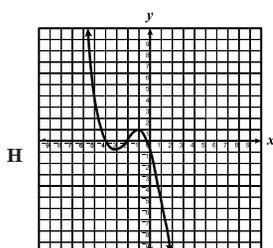
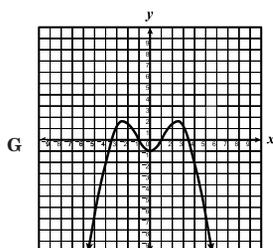
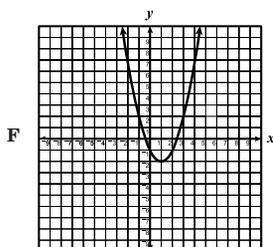
End of Course

A. Standard of Learning: A.II.15 The student will recognize the general shape of polynomial functions, locate the zeros, sketch the graphs, and verify graphical solutions algebraically. The graphing calculator will be used as a tool to investigate the shape and behavior of polynomial functions.

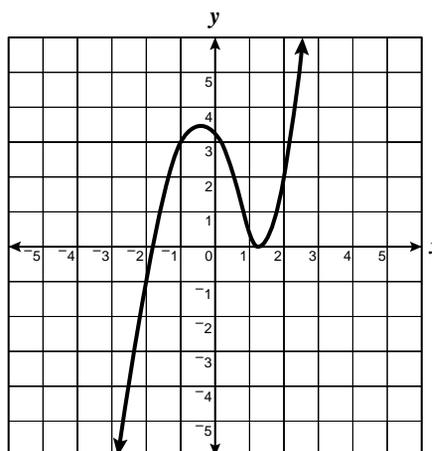
Builds On: Students begin working with polynomial functions in the Algebra I SOL.

A

16 Which graph could represent a third-degree polynomial function?



17



This is a portion of the graph of a polynomial function. Apparently the function has a double zero —

- A between -2 and -1
- B between -2 and 1
- C between 1 and 2
- D between 3 and 4

Instruction: Provide students an opportunity to recognize the graph of a polynomial function, and find a zero of a function on a graph.

Algebra II

End of Course

A. Standard of Learning: A.II.16 The student will investigate and apply the properties of arithmetic and geometric sequences and series to solve problems, including writing the first n terms, finding the n th term, and evaluating summation formulas. Notation will include Σ (Sigma) and a_n .

Builds On: Students begin analyzing numeric and geometric patterns in the grade 4 SOL and progress in complexity through the Algebra I SOL.

A

18 Driving a piling into a harbor bottom, a pile driver sinks the piling 24 inches on the first stroke, 18 inches on the second stroke, and $13\frac{1}{2}$ inches on the third stroke. If the sequence is continued, how far will the piling be driven down on the 5th stroke?

F $1\frac{1}{2}$ in.

G $4\frac{1}{2}$ in.

H 6 in.

J $7\frac{19}{32}$ in.

19 Two arithmetic means between 3 and 24 are —

A 8 and 12

B 8 and 16

C 9 and 16

D 10 and 17

Instruction: Provide students an opportunity to find arithmetic means between two numbers in a sequence and the fifth term in a geometric sequence.

Algebra II

End of Course

A. Standard of Learning: A.II.20 The student will identify, create, and solve practical problems involving a combination of direct and inverse variations.

Builds On: Students begin working with direct and inverse variations in the Algebra I SOL.

A

20 The volume (V) of a sphere varies directly with the cube of its radius (r). If k is the constant of proportionality, which is the formula for this relationship?

F $V = kr$

G $V = kr^3$

H $V = \frac{k}{r^3}$

J $r = kV^3$

21 Hooke's law states that the force required to stretch a spring varies directly with the distance the spring is stretched. If a 10-pound force stretches a spring 2 inches, what force is required to stretch the spring 5 inches?

A 15 pounds

B 20 pounds

C 25 pounds

D 30 pounds

Instruction: Provide students an opportunity to solve problems involving direct variation.

Algebra II

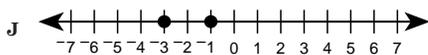
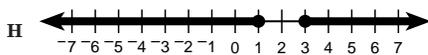
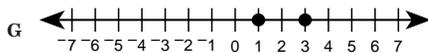
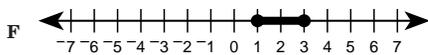
End of Course

A. Standard of Learning: A.II.4 The student will solve absolute value equations and inequalities graphically and algebraically. Graphing calculators will be used both as a primary method of solution and to verify algebraic solutions.

Builds On: Students begin solving equations in the grade 6 SOL and solving inequalities in the grade 7 SOL and progress through the Algebra I SOL.

A

22 Which number line shows the solution to $|x - 2| = 1$?



23 Which is the solution to $|2x - 4| > 8$?

- A $-2 < x < 6$
- B $x < -6$ or $x > 2$
- C $x = 2$ or $x = 6$
- D $x < -2$ or $x > 6$

Instruction: Provide students an opportunity to solve absolute value equations, and determine an absolute value inequality from a line graph.

Algebra II

End of Course

A. Standard of Learning: A.II.6 The student will select, justify, and apply a technique to solve a quadratic equation over the set of complex numbers. Graphing calculators will be used for solving and confirming algebraic solutions.

Builds On: Students begin solving quadratic equations in the Algebra I SOL.

A

24 What are the solutions to $4x - 16 = -2x^2$?

- F $x = 4i$ or $x = -2$
- G $x = -4$ or $x = 2$
- H $x = 4$ or $x = 2i$
- J $x = 4$ or $x = 2$

25 What are the solutions to $x^2 - 3x - 4 = 0$?

- A $x = 1$ or $x = -4$
- B $x = -1$ or $x = 4$
- C $x = \frac{3 \pm i\sqrt{7}}{2}$
- D $x = \frac{3 \pm \sqrt{7}}{2}$

26 What are the solutions to $(y + 3)^2 - 81 = 0$?

- F $y = -12$ or $y = -6$
- G $y = -12$ or $y = 6$
- H $y = 12$ or $y = -6$
- J $y = 12$ or $y = 6$

27 The height of a right triangle is 5 units more than twice its base. If the area of the triangle is 21 square units, what is its height?

- A $\frac{7}{2}$ units
- B $\frac{-5 + \sqrt{193}}{4}$ units
- C $\frac{5 + \sqrt{193}}{2}$ units
- D 12 units

Instruction: Provide students an opportunity to find the solution set for a quadratic equation, and the complex number solution set for quadratic equations.

Algebra II

End of Course

A. Standard of Learning: A.II.7 The student will solve equations containing rational expressions and equations containing radical expressions algebraically and graphically. Graphing calculators will be used for solving and confirming algebraic solutions.

Builds On: Students begin solving equations in the grade 6 SOL and progress through the Algebra I SOL.

A

- 28 A pendulum L inches in length takes t seconds to make one full cycle according to the equation

$$t = 2\pi\sqrt{\frac{L}{384}}$$

To the nearest tenth of an inch, what is the length of a pendulum that completes one full cycle every 1.5 seconds?

- F 9.6 in.
G 14.6 in.
H 21.9 in.
J 29.2 in.

- 29 What is the solution to $\sqrt{5x} - 1 = 2$?

- A $x = \frac{1}{5}$
B $x = \frac{\sqrt{3}}{5}$
C $x = \frac{5}{9}$
D $x = \frac{9}{5}$

- 30 What is the solution to $\sqrt{\frac{x+3}{2}} = 3$?

- F $x = 3$
G $x = 9$
H $x = 15$
J $x = 33$

- 31 What is the solution to $\frac{x}{2x+1} = \frac{4}{3}$?

- A $x = -\frac{1}{5}$
B $x = -5$
C $x = -\frac{4}{5}$
D $x = -\frac{5}{4}$

Instruction: Provide students an opportunity to solve a problem with a formula containing a radical; to solve a rational equation; and to solve a radical equation.

Algebra II

End of Course

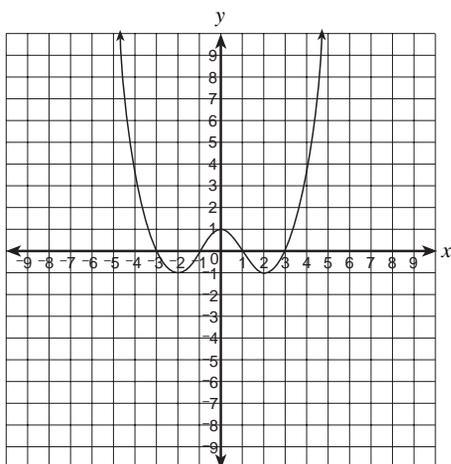
Reporting Category: Analytic Geometry

A. Standard of Learning: A.II.10 The student will investigate and describe the relationships between the solution of an equation, zero of a function, x-intercept of a graph, and factors of a polynomial expression through the use of graphs.

Builds On: Students begin to study the solutions of an equation, zero of a function, x-intercept of a graph, and factors of a polynomial expression in the Algebra I SOL.

A

32



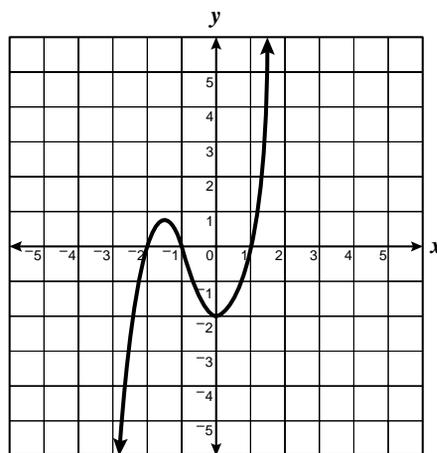
Which of the following sets contains all the apparent zeros for the function shown?

- F {1}
- G {-2, 0, 2}
- H {-2, 1, 2}
- J {-3, -1, 1, 3}

33 A polynomial function has a zero at $x = -4$. Which expression *must* be a factor of the polynomial?

- A $x - 4$
- B $x - 2$
- C $x + 2$
- D $x + 4$

34



A section of the graph of a polynomial function with integral coefficients is shown. Which of the following sets most likely contains only elements that are factors of the polynomial?

- F $\{(x - 2), (x - 1.5)\}$
- G $\{(x - 2), (x - 1), (x + 1)\}$
- H $\{(x + 2), (x + 1), (x - 1)\}$
- J $\{x, (x - 2), (x - 1), (x + 1)\}$

Instruction: Provide students an opportunity to choose a set of factors that represent solutions to a polynomial function; to choose a set of zeros for a polynomial function; and to choose a factor expression for a particular zero of a polynomial.

Algebra II

End of Course

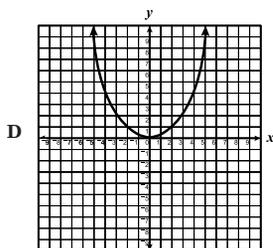
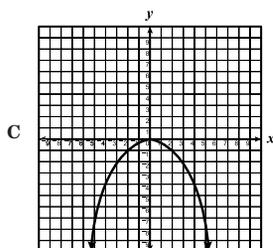
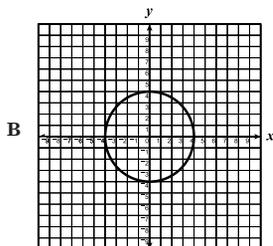
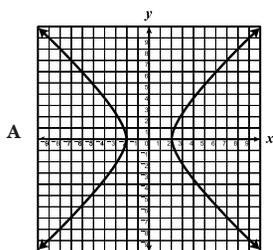
Reporting Category: Systems of Equations/Inequalities

A. Standard of Learning: A.II.18 The student will identify conic sections (circle, ellipse, parabola, and hyperbola) from his/her equations. Given the equations in (h, k) form, students will sketch graphs of conic sections, using transformations.

Builds On: Students begin to relate to equations and graphs in the grade 8 SOL and continue through the Algebra I SOL.

A

35 Which of the following could be the graph of $y = \frac{1}{4}x^2$?



36 What are the coordinates of the vertex of the graph of $y - 2 = (x + 3)^2$?

- F (-2, 3)
- G (-3, 2)
- H (3, -2)
- J (2, -3)

37 Which describes the graph of

$$\frac{x^2}{4} - \frac{y^2}{16} = 1?$$

- A Parabola
- B Circle
- C Ellipse
- D Hyperbola

Instruction: Provide students an opportunity to identify the conic section formed by a particular equation; to choose the coordinates of the vertex of a particular equation; and to identify the conic section for a particular equation.

Algebra II

End of Course

A. Standard of Learning: A.II.11 The student will use matrix multiplication to solve practical problems. Graphing calculators or computer programs with matrix capabilities will be used to find the product.

Builds On: Students begin to work with matrices in the grade 8 SOL and perform operations with matrices in the Algebra I SOL.

A

38

$$[1 \ 2 \ 3 \ 6] = P$$

Matrix P shows the point value for the different ways points may be scored in a football game.

$$\begin{bmatrix} 2 \\ 0 \\ 2 \\ 3 \end{bmatrix} = S$$

Matrix S shows the number of times a team scored points in a game categorized by the way points may be scored. What was the total number of points the team scored in the game?

- F 19
- G 24
- H 26
- J 27

39

$$S = \begin{bmatrix} 3 \\ -1 \end{bmatrix}$$

$$T = [2 \ -2]$$

Which matrix is the product $S \times T$?

- A [8]
- B [6 2]
- C $\begin{bmatrix} 6 \\ 2 \end{bmatrix}$
- D $\begin{bmatrix} 6 & -6 \\ -2 & 2 \end{bmatrix}$

Instruction: Provide students an opportunity to find the product matrix when given two matrices.

Algebra II

End of Course

A. Standard of Learning: A.II.12 The student will represent problem situations with a system of linear equations and solve the system using the inverse matrix method. Graphing calculators or computer programs with matrix capability will be used to perform computations.

Builds On: Students begin to work with matrices in the grade 8 SOL and perform operations with matrices in the Algebra I SOL.

A

40 If $A = \begin{bmatrix} 3 & 2 \\ 5 & 3 \end{bmatrix}$ and the product

$$A \cdot B = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}, \text{ then } B =$$

F $\begin{bmatrix} \frac{1}{3} & 0 \\ 0 & \frac{1}{3} \end{bmatrix}$

G $\begin{bmatrix} -3 & 2 \\ 5 & -3 \end{bmatrix}$

H $\begin{bmatrix} \frac{1}{3} & \frac{1}{2} \\ \frac{1}{5} & \frac{1}{3} \end{bmatrix}$

J $\begin{bmatrix} 3 & -4 \\ 5 & -8 \end{bmatrix}$

41 A small plant manufactures toy cars and trucks on two production lines. Matrix A is the input-output matrix of each item on each line per hour. Matrix B gives the number of hours each line operates in a day.

$$A = \begin{array}{cc} \text{Line 1} & \text{Line 2} \\ \begin{bmatrix} 1 & 3 \\ 2 & 4 \end{bmatrix} & \begin{bmatrix} \text{Trucks} \\ \text{Cars} \end{bmatrix} \end{array} \text{ and}$$

Number of
Hours

$$B = \begin{bmatrix} 8 \\ 12 \end{bmatrix}$$

Which product represents the matrix of the number of toy cars and trucks produced in a day on both production lines?

A $\begin{array}{c} \text{Trucks} \\ \text{Cars} \end{array} \begin{bmatrix} 64 \\ 44 \end{bmatrix}$

B $\begin{array}{c} \text{Trucks} \\ \text{Cars} \end{array} \begin{bmatrix} 24 \\ 72 \end{bmatrix}$

C $\begin{array}{c} \text{Trucks} \\ \text{Cars} \end{array} \begin{bmatrix} 44 \\ 64 \end{bmatrix}$

D $\begin{array}{c} \text{Trucks} \\ \text{Cars} \end{array} \begin{bmatrix} 16 \\ 48 \end{bmatrix}$

Instruction: Provide students an opportunity to find the inverse of a matrix and the solution matrix for a system of three linear equations.

Algebra II

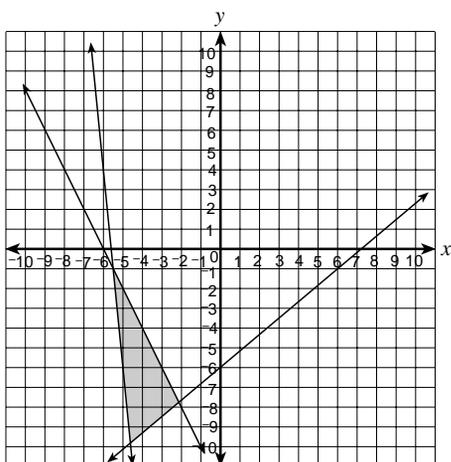
End of Course

A. Standard of Learning: A.II.13 The student will solve systems of linear inequalities and linear programming problems and describe the results both orally and in writing. A graphic calculator will be used to facilitate solutions to linear programming problems.

Builds On: Students begin working with systems of equations in the Algebra I SOL.

A

42 The graph shows the solution for which system of inequalities?



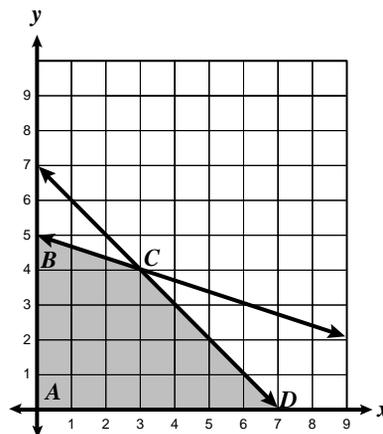
F
$$\begin{cases} y \geq -10x - 56 \\ y \geq \frac{5x}{6} - 6 \\ y \leq -2x - 12 \end{cases}$$

G
$$\begin{cases} y \leq 56 - 10x \\ y \geq \frac{5x}{6} - 6 \\ y \leq 12 - 2x \end{cases}$$

H
$$\begin{cases} y \geq -12 - 2x \\ y \leq \frac{5x}{6} \\ y \leq -56 - 10x \end{cases}$$

J
$$\begin{cases} y \leq 2x - 12 \\ y \geq 6 - \frac{5x}{6} \\ y \geq 10x - 56 \end{cases}$$

43



The graph of the linear programming model consists of polygon $ABCD$ and its interior. Under these constraints, which is the point where the *maximum* value of $3x + 2y$ occurs?

- A A
- B B
- C C
- D D

Instruction: Provide students an opportunity to determine the maximum value of a linear programming model's graph and select the system of inequalities that represents a given graph.

Algebra II

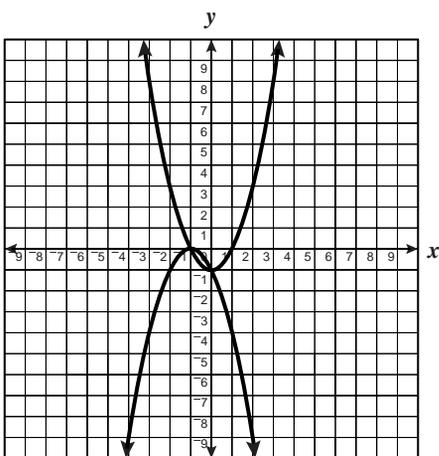
End of Course

A. Standard of Learning: A.II.14 The student will solve nonlinear systems of equations, including linear-quadratic and quadratic-quadratic, algebraically and graphically. The graphing calculator will be used as a tool to visualize graphs and predict the number of solutions.

Builds On: Students begin working with graphs of liens in the grade 8 SOL and with graphs of quadratics in the Algebra I SOL.

A

44



This is a portion of the graph of a system of equations. Which is *most* likely the solution set for the system?

- F $\{(-1, 1)\}$
- G $\{(-1, 0), (1, 0)\}$
- H $\{(-1, 0), (0, 1)\}$
- J $\{(-1, 0), (0, -1)\}$

45

$$\begin{cases} x^2 - 3y^2 = -8 \\ x^2 + 2y^2 = 12 \end{cases}$$

Which is the solution to the system of equations above?

- A $\{(-2, -2), (-2, 2), (2, -2), (2, 2)\}$
- B $\{(-3.5, 0), (0, -2.5), (0, 2.5), (3.5, 0)\}$
- C $\{(-3, -3), (-3, 3), (3, -3), (3, 3)\}$
- D $\{(-3, -4), (-3, 4), (3, -4), (3, 4)\}$

Instruction: Provide students an opportunity to identify the solution set for a system of quadratic equations from a graph and solve a system of linear-quadratic equations.

Algebra II

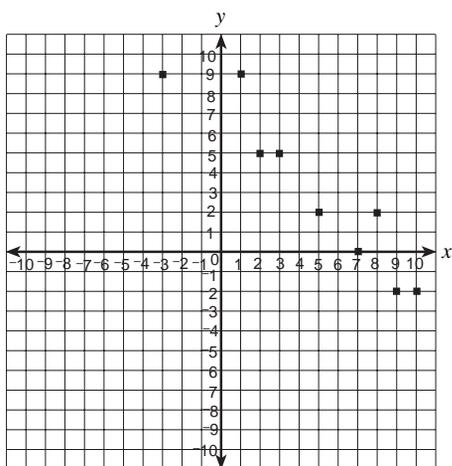
End of Course

A. Standard of Learning: A.II.19 The student will collect and analyze data to make predictions, write equations, and solve practical problems. Graphing calculators will be used to investigate scatterplots to determine the equation for a curve of best fit.

Builds On: Students begin to collect, analyze data, and make predictions based on the data in the grade 2 SOL and progress to an investigation of scatterplots in the Algebra I SOL.

A

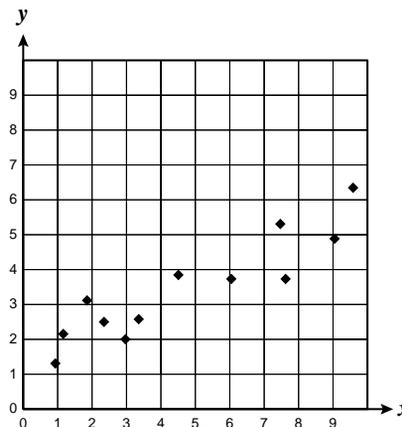
46



Which line best fits the scatterplot data?

- F $2y = -x + 8$
- G $8 = x - y$
- H $y = 8 - x$
- J $2y = x - 15$

47



Which equation is nearest to the line of best fit of the data in this scatterplot?

- A $y = x$
- B $y = \frac{1}{2}x + 1$
- C $y = 2x$
- D $y = \sqrt{x} + 2$

Instruction: Provide students an opportunity to identify an equation for a scatterplot graph.

Algebra II

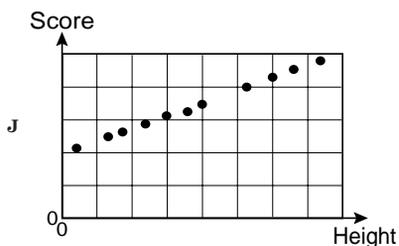
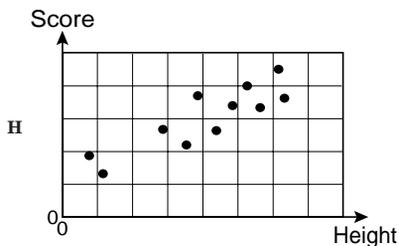
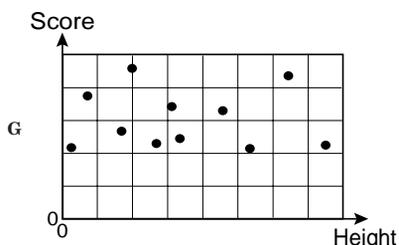
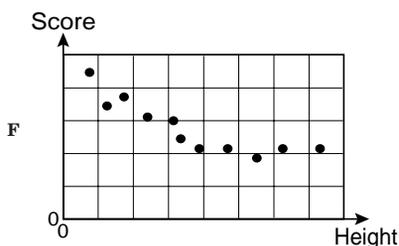
End of Course

A. Standard of Learning: A.II.19 The student will collect and analyze data to make predictions, write equations, and solve practical problems. Graphing calculators will be used to investigate scatterplots to determine the equation for a curve of best fit.

Builds On: Students begin to collect, analyze data, and make predictions based on the data in the grade 2 SOL and progress to an investigation of scatterplots in the Algebra I SOL.

A

- 48 George was comparing the heights of 11 of his classmates with their algebra scores. Which of the following scatterplots is most likely a representation of that relationship?



- 49 The table shows the number of students enrolled in the advanced algebra program at Fair Oaks High School during the 6 years since its initiation.

Year (x)	Number of Students (n)
1	66
2	72
3	82
4	90
5	100
6	106

Which of the following equations most closely describes the relationship between n , the number of students enrolled, and x , the number of years the class has been in existence?

- A $n = x + 65$
 - B $n = 6x + 60$
 - C $n = 8x + 58$
 - D $n = 10x + 46$
- 50 In 1990, sales at ABC Electronics totaled 4.9 million dollars. During 1996, total sales amounted to 12.1 million. Assuming the growth in sales is a linear relation, what total sales can the company expect in 2001?
- F 16.9 million
 - G 18.1 million
 - H 24.2 million
 - J 25.3 million

Instruction: Provide students an opportunity to predict a value from the graph of a scatterplot based on a line of best fit; to solve a practical problem using the line of best fit; to use a table of values to predict an amount; and to identify an equation for a scatterplot graph.

Correct Answers

End
of
Course

ALGEBRA II TEST

1. C 2. J 3. A 4. H 5. B 6. G 7. D 8. H 9. D 10. G
11. B 12. H 13. B 14. F 15. B 16. H 17. C 18. J 19. D
20. G 21. C 22. G 23. D 24. G 25. B 26. G 27. D 28. H
29. D 30. H 31. C 32. J 33. D 34. H 35. D 36. G 37. D
38. H 39. D 40. G 41. C 42. F 43. D 44. J 45. A 46. H
47. B 48. G 49. C 50. G